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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,203	09/12/2003	Larry W. Smith	1065	9110

7590
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04/15/2005

EXAMINER

GAY, JENNIFER HAWKINS

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/662,203	Applicant(s) SMITH, LARRY W.	
	Examiner Jennifer H Gay	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37.CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/12/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 2 includes a circle that is labeled as "1". This is a reference number that was also used to indicate the centralizer thus couldn't be used to indicate another feature. Since the Brief Description of Figure 1 indicates that this circle is a "section line", it is suggested that the label of the circle be changed to 1-1 or the Brief Description of Figure 1 be changed to indicate that the figure is an enlarged perspective view taken at the circle shown in Figure 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 32. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 35. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because the last sentence of the abstract includes purported merits. Correction is required. See MPEP § 608.01(b).

5. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

6. The disclosure is objected to because of the following informalities: a portion of the disclosure appears to be missing as page 10 does not end with a complete sentence.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 13 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 13 and 20 are considered indefinite because the last line of both claims recite "with at least three of said plurality of spacer lugs removably engaging said centralizer hub" and the spacer lugs are described early in each claim as all being removably engaged with the centralizer hub. Therefore, it is unclear how only a portion of them need be removably engaged with the hub.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3672

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 2, 9, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Terry (US 6,516,877).

Regarding claim 1: Terry discloses a multi-unit centralizer that includes a centralizer hub having a plurality of hub subunits **12a**, **12b** removably engaging each other and at least one spacer lug **20** removably engaging each of the subunits (Figure 4).

Regarding claim 2: Each of the subunits includes at least one flange groove and each of the spacer lugs includes a lug flange that slidably engages the flange groove (Figures 1 and 2).

Regarding claim 9: The flange groove and lug flange are dovetailed with the lug flange having wings and a lug blade extending between the wings.

Regarding claim 22: Terry further discloses the method for using that above centralizer where the method involves providing the above parts, assembling the centralizer on a tubing string, and lowering the tubing string and centralizer into the wellbore.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3-8, 10-12, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Evans (US 3,963,075).

Regarding claims 3, 10: Terry discloses all of the limitations of the above claims except for the centralizer including at least one clamp that is removably engaged with the subunits and the lugs to secure the assembly.

Evans discloses a centralizer similar to that of Terry. Evans further teaches extending a plurality of clamps **24** through a centralizer unit **20** and spacer lugs **40**. Though it is not specifically disclosed that the clamps are removable, the clamps could be forcibly removed by a variety of means thus are considered to be removable.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry to include the clamps taught by Evans in order to have provided a means for not only securing the centralizer to the tubing but also ensuring that the spacer lugs were not forced from the grooves into which they were placed by a frictional build up between the lugs and the wellbore wall.

Regarding claims 4, 6, 19: Each of the subunits includes at least one flange groove and each of the spacer lugs includes a lug flange that slidably engages the flange groove (Figures 1 and 2).

Regarding claims 5, 7, 10, 11: The clamps of Evans are positioned in clamp grooves formed in the unit and clamp slots formed in the lugs as shown in Figure 3 where it is shown that the clamps are seated in the clamp groove in the unit and extend through the clamp slot in the lugs.

Regarding claim 18: Terry discloses a multi-unit centralizer that includes a centralizer hub having a plurality of hub subunits **12a**, **12b** removably engaging each other and at least one spacer lug **20** removably engaging each of the subunits (Figure 4).

Terry discloses all of the limitations of the above claims except for the subunits include clamp grooves, the lugs including clamp slots, and at least one band clamp being removably seated in the grooves and extending through the slots.

Evans discloses a centralizer similar to that of Terry. Evans further teaches extending a plurality of clamps **24** through a centralizer unit **20** and spacer lugs **40**. The clamps of Evans are positioned in clamp grooves formed in the unit and clamp slots formed in the lugs as shown in Figure 3 where it is shown that the clamps are seated in

the clamp groove in the unit and extend through the clamp slot in the lugs. Though it is not specifically disclosed that the clamps are removable, the clamps could be forcibly removed by a variety of means thus are considered to be removable.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry to include the clamps taught by Evans in order to have provided a means for not only securing the centralizer to the tubing but also ensuring that the spacer lugs were not forced from the grooves into which they were placed by a frictional build up between the lugs and the wellbore wall.

13. Claims 13, 14, 17, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Tighe (US 4,076,084).

Regarding claim 13: Terry discloses a multi-unit centralizer that includes a centralizer hub having a plurality of hub subunits **12a**, **12b** that are all removably engaging each other and a plurality of spacer lug **20** removably and interchangeably engaging each of the subunits (Figure 4) where the lugs have an attachment edge that engages the subunits and an outer edge spaced from the attachment edge thus defining a radial dimension.

Terry discloses all of the limitations of the above claims except for the lugs having a first set having a first radial dimension and a second set having second radial dimension smaller than the first.

Tighe discloses a wellbore tool that is designed to position a drill bit in a desired orientation in the wellbore. Tighe further teaches using a device that includes a plurality of spacer lugs of different radial dimensions (Figures 3 and 4).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry to include spacer lugs of differing radial dimensions in order to have been able to orient a down hole tool in certain direction such as in a horizontal or deviated wellbore.

Regarding claim 14: Each of the subunits includes at least one flange groove and each of the spacer lugs includes a lug flange that slidably engages the flange groove (Figures 1 and 2).

Regarding claims 17, 24: The spacer lugs of Tighe include three different radial lengths.

Regarding claim 23: Terry discloses all of the limitations of the above claims except for the lugs having a first set having a first radial dimension and a second set having second radial dimension smaller than the first.

Tighe discloses a wellbore tool that is designed to position a drill bit in a desired orientation in the wellbore. Tighe further teaches using a device that includes a plurality of spacer lugs of different radial dimensions (Figures 3 and 4).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry to include spacer lugs of differing radial dimensions in order to have been able to orient a down hole tool in certain direction such as in a horizontal or deviated wellbore.

Regarding claims 25, 26: Though not specifically disclosed by Tighe, the examiner takes Official Notice that it would be considered well known to choose the three different disclosed spacer lugs from different sets based upon the needs of the operator such as degree of deviation of the wellbore.

14. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Tighe as applied to claim 13 above, and further in view of Evans.

Regarding claim 15: Terry and Tighe disclose all of the limitations of the above claims except for the centralizer including at least one clamp that is removably engaged with the subunits and the lugs to secure the assembly.

Evans discloses a centralizer similar to that of Terry. Evans further teaches extending a plurality of clamps 24 through a centralizer unit 20 and spacer lugs 40. Though it is not specifically disclosed that the clamps are removable, the clamps could be forcibly removed by a variety of means thus are considered to be removable.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry in view of Tighe to include the clamps taught by Evans in order to have provided a means for not only securing the centralizer to the tubing but also ensuring that the spacer lugs were not forced from the grooves into which they were placed by a frictional build up between the lugs and the wellbore wall.

Regarding claim 16: The clamps of Evans are positioned in clamp grooves formed in the unit and clamp slots formed in the lugs as shown in Figure 3 where it is shown that the clamps are seated in the clamp groove in the unit and extend through the clamp slot in the lugs.

15. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Evans as applied to claim 18 above, and further in view of Tighe.

Regarding claim 20: Terry and Evans disclose all of the limitations of the above claims except for the lugs having a first set having a first radial dimension and a second set having second radial dimension smaller than the first.

Tighe discloses a wellbore tool that is designed to position a drill bit in a desired orientation in the wellbore. Tighe further teaches using a device that includes a plurality of spacer lugs of different radial dimensions (Figures 3 and 4).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry in view of Evans to include spacer lugs of differing radial dimensions in order to have been able to orient a down hole tool in certain direction such as in a horizontal or deviated wellbore.

Regarding claim 21: The spacer lugs of Tighe include three different radial lengths.

Conclusion

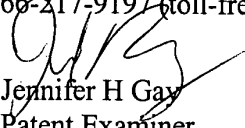
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

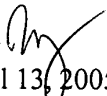
The remaining references made of record disclose various wellbore centralizers and stabilizers.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer H Gay
Patent Examiner
Art Unit 3672

JHG 
April 13, 2005